KNOWLES Advisory & Consulting

Applied Research Intelligence

AI-Powered Development Methods

Master Mixed-Methods Research with AI as Your Co-Researcher

8 Days (4 Weeks) | 2 Days/Week | 3.5-4 hrs | 2 Batches/Year | TBD | ₹25,000

◆ COURSE OVERVIEW

Applied Research Intelligence is a comprehensive methods course for development researchers who want to integrate AI across the full research cycle. Over 7 intensive days, you will design AI-augmented mixed-methods studies, conduct AI-powered surveys and qualitative coding, implement participatory methods with AI facilitation, and communicate findings to policy audiences - all while navigating the ethical frontiers of AI in development research.

◆ COURSE MODULES - 7 DAYS × 3 HOURS

Module 1: Mixed-Methods Research Design with AI Augmentation — 3 Hours

LECTURE CONTENT (90 min)

- Mixed-methods research design typologies: convergent, explanatory, exploratory
- AI's role in integrating qualitative and quantitative evidence streams
- Research question development with Claude AI co-creation techniques
- Choosing your AI-augmented research design for development contexts
- Ethical frameworks for AI in development research: core principles
- Perplexity for rapid methodological literature review and design precedents
- Diagramming AI for visualising mixed-methods research design frameworks
- Building your AI-augmented research proposal with Claude's assistance

GROUP WORK & PRACTICALS (90 min)

- Research design sprint: use Claude to co-develop a mixed-methods design
- Diagramming AI challenge: visualise your research design and data integration plan
- Peer critique: review each other's designs using AI-generated evaluation criteria

Module 2: AI-Powered Survey & Interview Instrument Design — 3 Hours

LECTURE CONTENT (90 min)

- AI-generated survey instruments: using Claude for question development
- Adapting research tools for diverse cultural contexts with AI translation
- Cognitive testing your instruments with AI simulation of respondent behaviour
- Multi-language research tools with AI back-translation and validation
- Digital data collection platforms: KoboToolbox with AI validation
- Interview guide design with Claude: question types, probes, and sequencing
- Indicator alignment with Excel and Dashboards
- Piloting instruments: AI-powered pre-test simulation and feedback

GROUP WORK & PRACTICALS (90 min)

- Survey design workshop: build a 25-question survey using Claude in 45 minutes
- Interview guide challenge: develop a semi-structured guide with Claude probes
- KoboToolbox setup: deploy a survey with AI-generated skip logic

Module 3: Quantitative Analysis: SPSS, Excel & AI-Assisted Interpretation — 3 Hours

LECTURE CONTENT (90 min)

- Quantitative research design: sampling, measurement, and data management
- SPSS for descriptive statistics, cross-tabulation, and frequency analysis
- Regression analysis in SPSS with Claude for plain-language interpretation
- Excel for data cleaning, pivot tables, and quantitative tracking matrices
- Julius AI and Bricks AI for rapid quantitative data visualisation and trend identification
- AI for sample size calculations and power analysis with Excel tools
- Integrating quantitative findings with qualitative data using AI synthesis
- Reporting quantitative results: APA style with Claude-generated narratives

GROUP WORK & PRACTICALS (90 min)

- SPSS analysis exercise: analyse a programme dataset and interpret with Claude
- Julius AI challenge: visualise SPSS results into presentation-ready charts
- Excel data management: clean and organise a messy dataset with AI assistance

Module 4: Claude for Qualitative Coding: Grounded Theory & Framework Analysis

3 Hours

LECTURE CONTENT (90 min)

- Qualitative coding fundamentals: grounded theory and framework analysis
- Claude as a systematic coding assistant: setup and calibration
- Grounded theory approach: open, axial, and selective coding with AI support
- Framework analysis and AI-assisted codebook development
- Quality assurance in AI-assisted coding: validation and reflexivity
- Diagramming AI for visualising grounded theory models and code hierarchies
- Importing Claude-generated codes into NVivo for advanced analysis
- Comparative case analysis using AI coding frameworks

GROUP WORK & PRACTICALS (90 min)

- Coding exercise: apply grounded theory coding to a transcript using Claude
- Codebook development: build a collaborative codebook with AI assistance
- Diagramming AI workshop: build a grounded theory diagram from coded data

Module 5: Participatory Research Methods & AI Facilitation

3 Hours

LECTURE CONTENT (90 min)

- Participatory Research Action (PRA) tools: mapping, ranking, timelines with AI
- AI facilitation of participatory processes: supporting community voice
- Community-based data collection with digital tools and AI validation
- Digital storytelling and participatory video with AI transcription and analysis
- Ensuring community ownership in AI-augmented participatory research
- Claude for facilitating sense-making workshops and community debriefs
- Perplexity for secondary research to contextualise community findings
- Ethical protocols for AI use in community-based research contexts

GROUP WORK & PRACTICALS (90 min)

- PRA simulation: conduct a digital participatory mapping with AI documentation
- Claude facilitation: use AI to structure and summarise a community sense-making
- Group designs a participatory research protocol with integrated AI tools

Module 6: Low-Resource AI Solutions & Field Research in Challenging Contexts
3 Hours

LECTURE CONTENT (90 min)

- AI tools that work in low-connectivity and low-resource environments
- Offline AI solutions: KoboToolbox offline and field-ready tools
- Mobile data collection with AI validation for remote field research
- Adapting AI workflows for low-literacy and non-digital communities
- Data sovereignty and AI ethics in resource-limited development research
- Excel offline analysis tools for field teams without internet access
- Perplexity for pre-field secondary research preparation and context scanning
- Building resilient AI research workflows for complex humanitarian contexts

GROUP WORK & PRACTICALS (90 min)

- Offline workflow challenge: design a complete data collection system for low-connectivity
- Field simulation: collect and process data using AI tools under constrained conditions
- Group presents low-resource AI research solutions for peer critique

Module 7: Policy Communication, Research Dissemination & AI Storytelling 3 Hours

LECTURE CONTENT (90 min)

- Translating research findings for policy audiences with Claude and AI tools
- Claude for policy brief generation: from findings to actionable recommendations
- Gamma for transforming research reports into compelling visual presentations
- Presentation AI for research findings presentations to diverse audiences
- Diagramming AI for research conceptual models and evidence diagrams
- Building a research communication strategy with AI-driven content planning
- Open access publishing, research ethics, and responsible AI disclosure

GROUP WORK & PRACTICALS (90 min)

- Policy brief sprint: use Claude to generate a 2-page brief from research findings
- Gamma presentation build: create a visual research summary for policymakers
- Capstone: present a complete AI-augmented research project from design to dissemination

◆ LEARNING OUTCOMES

- Design rigorous mixed-methods studies with AI augmentation using Claude and Diagramming AI
- Use Claude to design surveys, interview guides, and deploy with KoboToolbox
- Apply SPSS and Excel for quantitative analysis with AI interpretation support
- Use Claude for systematic qualitative coding, including grounded theory approaches
- Implement AI-enhanced sampling strategies appropriate to development research contexts
- Communicate research findings to policy audiences using Gamma, Claude, and Presentation AI

◆ TOOLS & TECHNOLOGIES

Claude	Perplexity	Julius AI	SPSS
Excel	Gamma	Diagramming AI	Zoho
Presentation AI			

◆ WHO SHOULD ATTEND

Early-mid career researchers, Evaluators, Policy analysts, Doctoral/MA scholars, NGO researchers

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